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EXAMINER	
HUISMAN, DAVID J	

ART UNIT	PAPER NUMBER
2183	4

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/748,165	Applicant(s) PAVER, NIGEL C.	
	Examiner David J. Huisman	Art Unit 2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-22 have been examined.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: #3. Declaration as received on 4/3/2001.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The abstract of the disclosure is objected to because of the following minor informalities:

In line 3, please insert --of-- after "processing".

In line 4, insert a comma before "several".

In line 8, replace "maybe" with --may be--.

In line 9, replace "space, reducing" with --space and reducing--.

Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

On page 1, please insert a comma after "Initially" and "memory" (line 15) and after "(LAN)" (line 20).

On page 2, line 13, insert a comma after "processing".

On page 2, line 20, replace "effected" with --affected--.

On page 6, line 17, insert a comma after "addition".

On page 6, line 19, replace "a SIMD" with --an SIMD--.

On page 7, line 16, the examiner is not clear if the use of the word "or" is proper.

On page 8, line 2, replace "maybe" with --may be--.

On page 8, line 22, replace "one order skill of the art" with --one of ordinary skill in the art,--.

Please insert the word "to" after "proceeds" on page 9, lines 4, 9, 11, 14, 19, and 22.

Please insert the word "to" after "proceeds" on page 10, lines 1 and 13.

On page 10, lines 16-18, replace all occurrences of "anded" with --ANDed--.

On page 10, line 20, replace "320" with --330--.

On page 10, line 22, replace "four bits" with --four-bit--.

On page 10, line 24, replace both occurrences of "8 bit" with --8-bit--.

On page 11, line 3, replace both occurrences of "anded" with --ANDed--.

On page 11, line 7, replace "8 bit" with --8-bit--.

On page 11, line 12, replace "anded" with --ANDed--.

On page 11, line 17, insert "to" after "proceeds".

On page 11, lines 21-23, replace all occurrences of "ORD" with --ORed--.

On page 11, line 24, replace "420" with --430--.

On page 12, line 3, replace "four bits" with --four-bit--.

On page 12, line 5, replace both occurrences of "8 bit" with --8-bit--.

On page 12, lines 8-9, replace all occurrences of "ORD" with --ORed--.

On page 12, line 12, replace "8 bit" with --8-bit--.

On page 12, line 17 replace "ORD" with --ORed--.

On page 13, lines 2-10, steps 520 and 540 should be explained more clearly. It is not clear to the examiner in step 520 how 4 bits of the destination register (31:28) can be set to 12 bits (which come from nibbles 0-2, where each nibble comprises 4 bits). Also, in step 540, it is unclear how 8 bits of the destination register (31:24) can be set to 16 bits (which come from bytes 0-1, where each byte comprises 8 bits). The examiner is assuming that the applicant had meant to say that the destination register bits, for instance, bits 31-28, are set to either nibble 0, nibble 1, or nibble 2, but nibbles 0-2. However, the specification should illustrate this concept more clearly.

On page 14, line 3, add a comma after "requirements".

On page 14, line 4, it is recommended that "of operating" be replace with --to operate--.

Appropriate correction is required.

Drawings

6. The drawings are objected to because of the following minor informalities: The applicant should label the no-paths for steps 370 (Fig.4), 470 (Fig.5), and 550 (Fig.6) with the word "No". In addition, for Fig.4-6, it is recommended that the blocks be made large enough to encompass the corresponding phrases. For instance, block 470 (Fig.5) should be increased in size in order to fit the phrase associated with it. Finally, regarding Fig.6, in step 520, it is unclear how 4 bits of the destination register (31:28) can be set to 12 bits (which come from nibbles 0-2, where each nibble comprises 4 bits). Also, in step 540, it is unclear how 8 bits of the destination register (31:24) can be set to 16 bits (which come from bytes 0-1, where each byte comprises 8 bits). The drawings should illustrate this concept more clearly. A proposed drawing correction or

corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claims 1, 7, 12, 17, and 20 are objected to because the examiner is unclear on why "the plurality of arithmetic flags represent the status of a plurality of data items after a mathematical operation is performed by the processor on the plurality of data items." Shouldn't the arithmetic flags represent the results obtained from mathematical operations performed on the data items instead of representing the data items themselves? For instance, if an ADD instruction is to add two data items, the arithmetic flags would represent the status of the addition result, and not the data items themselves. Appropriate correction is required.

8. Claims 3 and 13 are objected to because of the following minor informalities: Please insert the word --on-- before "either" in line 1 of claim 3. Appropriate correction is required.

9. Claim 6 is objected to because of the following minor informalities: Please insert --check module-- after "condition" in line 2 of claim 6. Appropriate correction is required.

10. Claim 12 is objected to because of the following informalities. The examiner believes the preamble should be written more clearly. That is, the use of the phrase "instructions when executed by a processor results in, comprising:" is incorrect. The preamble should be reworded in a more appropriate fashion.

Double Patenting

11. Applicant is advised that should claims 17-19 be found allowable, claims 20-22 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, it is not clear from the preamble of claim 12 that the instructions are in fact stored on the data storage medium. As currently worded, claim 12's data storage medium is capable of storing instructions, however, it does not necessarily store the instructions.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-4, 6-9, and 17-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilson, U.S. Patent No. 6,530,012.

16. Referring to claim 1, Wilson has taught a device for combining a plurality of arithmetic flags, comprising a combination function module (Fig.6) that:

a) examines a plurality of arithmetic flags (column 7, lines 48-51); and

b) determines field size of the plurality of arithmetic flags and based on the determination of the field size will combine the plurality of arithmetic flags into a single combined arithmetic flag variable, wherein the plurality of arithmetic flags represent the status of a plurality of data items after a mathematical operation is performed by the processor on the plurality of data items. It should be realized that a field size must first be determined. For purposes of this examination, "field size" in Wilson refers to the maximum number of unique condition codes that can be produced for a given instruction. A condition code is a 4-bit set of arithmetic flags (column 6, lines 37-42). From column 6, lines 43-45, when the SIMD data is one byte in size, it is determined that the field size is 8. More specifically, up to 8 unique condition codes will be produced. From column 6, lines 46-56, when the SIMD data is two bytes (half-word) in size, it is determined that the field size is 4. That is, 4 condition codes are produced and then duplicated. However, it is only possible for 4 unique codes to be produced. As a further example, from column 6, lines 58-65, when the SIMD data is 32 bits in size (word), the field size is determined to be 2. That is, 2 condition codes are produced and then duplicated multiple times. However, it is only possible for 2 unique codes to be produced. Finally, when the SIMD data size is 64 bits, the field size is 1, where 1 condition code is produced and duplicated

multiple times. However, it is only possible for a single unique code to be produced. In the end, the plurality of arithmetic flags are stored in a single 64-bit arithmetic flag register (see Fig.5). These flags represent data item status (column 6, lines 1-5) after a mathematical operation is performed by the processor.

17. Referring to claim 2, Wilson has taught a device as described in claim 1. Wilson has further taught a condition check module that determines the status of the combined arithmetic flag variable and causes the processor to execute an appropriate operation based on the status. See column 8, lines 23-61.

18. Referring to claim 3, Wilson has taught a device as described in claim 1. Wilson has further taught that the field size is based on either a nibble, byte, half-word, or word. As described in the rejection of claim 1 above, and in column 6, lines 43-65, the field size is either a byte, half-word, word, or long-word. And, due to the applicant's use of the word "or" in the claim, Wilson is able to anticipate the claim since at least one of the claimed features has been taught.

19. Referring to claim 4, Wilson has taught a device as described in claim 3. Wilson has further taught that the plurality of arithmetic flags further comprise a negative data value, a zero data value, a carry out occurrence in a data value, or an overflow condition in a data item in the plurality of data items. See column 6, lines 1-5.

20. Referring to claim 6, Wilson has taught a device as described in claim 2. Wilson has further taught that the status determined by the condition further comprises:

a) any data item has overflowed. If any one of the condition codes in the combined variable of Fig.7 has the V bit set (which represents overflow), then it is determined, by the CC Checker

(Fig.7, component 50), that any data item has overflowed. See Table 1 in column 6 for further information.

b) any data item has not overflowed. If any one of the condition codes in the combined variable of Fig.7 has the V bit cleared (which represents no overflow), then it is determined, by the CC Checker (Fig.7, component 50), that any data item has not overflowed. See Table 1 in column 6 for further information.

c) any data item is positive or zero. If any one of the condition codes in the combined variable of Fig.7 has the N bit cleared (which represents a number not being negative), then it is determined, by the CC Checker (Fig.7, component 50), that any data item is positive or zero. See Table 1 in column 6 for further information.

d) any data item is negative. If any one of the condition codes in the combined variable of Fig.7 has the N bit set (which represents a negative number), then it is determined, by the CC Checker (Fig.7, component 50), that any data item is negative. See Table 1 in column 6 for further information.

e) any data item is zero. If any one of the condition codes in the combined variable of Fig.7 has the Z bit set (which represents zero), then it is determined, by the CC Checker (Fig.7, component 50), that any data item is zero. See Table 1 in column 6 for further information.

f) any data item is not zero. If any one of the condition codes in the combined variable of Fig.7 has the Z bit cleared (which represents a non-zero number), then it is determined, by the CC Checker (Fig.7, component 50), that any data item is not zero. See Table 1 in column 6 for further information.

g) any data item has a carry out. If any one of the condition codes in the combined variable of Fig.7 has the C bit set (which represents a carry), then it is determined, by the CC Checker (Fig.7, component 50), that any data item has a carry out. See Table 1 in column 6 for further information.

h) any data item does not have a carry out. If any one of the condition codes in the combined variable of Fig.7 has the C bit cleared (which represents no carry), then it is determined, by the CC Checker (Fig.7, component 50), that any data item does not have a carry out. See Table 1 in column 6 for further information.

i) all data items have overflowed. If all of the condition codes in the combined variable of Fig.7 has the V bit set (which represents overflow), then it is determined, by the CC Checker (Fig.7, component 50), that all data items have overflowed. See Table 1 in column 6 for further information.

j) all data items have not overflowed. If all of the condition codes in the combined variable of Fig.7 has the V bit cleared (which represents no overflow), then it is determined, by the CC Checker (Fig.7, component 50), that all data items have not overflowed. See Table 1 in column 6 for further information.

k) all data items are positive or zero. If all of the condition codes in the combined variable of Fig.7 has the N bit cleared (which represents a number not being negative), then it is determined, by the CC Checker (Fig.7, component 50), that all data items are positive or zero. See Table 1 in column 6 for further information.

l) all data items are negative. If all of the condition codes in the combined variable of Fig.7 has the N bit set (which represents a negative number), then it is determined, by the CC Checker

(Fig.7, component 50), that all data items are negative. See Table 1 in column 6 for further information.

m) all data items are zero. If all of the condition codes in the combined variable of Fig.7 has the Z bit set (which represents zero), then it is determined, by the CC Checker (Fig.7, component 50), that all data items are zero. See Table 1 in column 6 for further information.

n) all data items are not zero. If all of the condition codes in the combined variable of Fig.7 has the Z bit cleared (which represents a non-zero number), then it is determined, by the CC Checker (Fig.7, component 50), that all data items are not zero. See Table 1 in column 6 for further information.

o) all data items have a carry out. If all of the condition codes in the combined variable of Fig.7 has the C bit set (which represents a carry), then it is determined, by the CC Checker (Fig.7, component 50), that all data items have a carry out. See Table 1 in column 6 for further information.

p) all data items do not have a carry out. If all of the condition codes in the combined variable of Fig.7 has the C bit cleared (which represents no carry), then it is determined, by the CC Checker (Fig.7, component 50), that all data items do not have a carry out. See Table 1 in column 6 for further information.

21. Referring to claim 7, Wilson has taught a method of combining a plurality of arithmetic flags for presentation to a processor, comprising:

a) determining a field size of the plurality of arithmetic flags on which to base a combination process, wherein the plurality of arithmetic flags represent the status of a plurality of data items after a mathematical operation is performed by the processor on the plurality of data items. It

should be realized that a field size must first be determined. For purposes of this examination, "field size" in Wilson refers to the maximum number of unique condition codes that can be produced for a given instruction. A condition code is a 4-bit set of arithmetic flags (column 6, lines 37-42). From column 6, lines 43-45, when the SIMD data is one byte in size, it is determined that the field size is 8. More specifically, up to 8 unique condition codes will be produced. From column 6, lines 46-56, when the SIMD data is two bytes (half-word) in size, it is determined that the field size is 4. That is, 4 condition codes are produced and then duplicated. However, it is only possible for 4 unique codes to be produced. As a further example, from column 6, lines 58-65, when the SIMD data is 32 bits in size (word), the field size is determined to be 2. That is, 2 condition codes are produced and then duplicated multiple times. However, it is only possible for 2 unique codes to be produced. Finally, when the SIMD data size is 64 bits, the field size is 1, where 1 condition code is produced and duplicated multiple times. However, it is only possible for a single unique code to be produced. These condition codes (arithmetic flags) represent data item status (column 6, lines 1-5) after a mathematical operation is performed by the processor.

b) extracting the plurality of arithmetic flags based on the field size. The "American Heritage® Dictionary of the English Language, Third Edition," 1992, has defined "extract" as "to derive or obtain from a source" and "to determine or calculate." As a result, Wilson's system will extract (derive or determine) the arithmetic flag values based on a mathematical operation performed by the processor. And, from the rejection of claim 7 above, the number of flags derived (extracted) depends on the field size.

c) combining the plurality of arithmetic flags based on a function selected when a combination process is selected. See Fig.6 and column 6, line 43, to column 7, line 6. Note that the functions would include the byte combination, the half-word combination, the word combination, and the long-word combination.

d) storing a result of the combining of the plurality of arithmetic flags in a destination register for access by the processor. Note that the flags are stored in the destination register shown at the bottom of Fig.6.

22. Referring to claim 8, Wilson has taught a method as described in claim 7. Furthermore, claim 8 is rejected for the same reasons set forth in the rejection of claim 3.

23. Referring to claim 9, Wilson has taught a method as described in claim 8. Furthermore, claim 9 is rejected for the same reasons set forth in the rejection of claim 4.

24. Referring to claim 12, Wilson has taught an apparatus comprising a data storage medium for storing instructions (see Fig.1) when executed by a processor results in, comprising:

a) determining a field size of the plurality of arithmetic flags on which to base a combination process, wherein the plurality of arithmetic flags represent the status of a plurality of data items after a mathematical operation is performed by the processor on the plurality of data items. It should be realized that a field size must first be determined. For purposes of this examination, "field size" in Wilson refers to the maximum number of unique condition codes that can be produced for a given instruction. A condition code is a 4-bit set of arithmetic flags (column 6, lines 37-42). From column 6, lines 43-45, when the SIMD data is one byte in size, it is determined that the field size is 8. More specifically, up to 8 unique condition codes will be produced. From column 6, lines 46-56, when the SIMD data is two bytes (half-word) in size, it

is determined that the field size is 4. That is, 4 condition codes are produced and then duplicated. However, it is only possible for 4 unique codes to be produced. As a further example, from column 6, lines 58-65, when the SIMD data is 32 bits in size (word), the field size is determined to be 2. That is, 2 condition codes are produced and then duplicated multiple times. However, it is only possible for 2 unique codes to be produced. Finally, when the SIMD data size is 64 bits, the field size is 1, where 1 condition code is produced and duplicated multiple times. However, it is only possible for a single unique code to be produced. These condition codes (arithmetic flags) represent data item status (column 6, lines 1-5) after a mathematical operation is performed by the processor.

b) extracting the plurality of arithmetic flags based on the field size. The "American Heritage® Dictionary of the English Language, Third Edition," 1992, has defined "extract" as "to derive or obtain from a source" and "to determine or calculate." As a result, Wilson's system will extract (derive or determine) the arithmetic flag values based on a mathematical operation performed by the processor. And, from the rejection of claim 7 above, the number of flags derived (extracted) depends on the field size.

c) combining the plurality of arithmetic flags based on a function selected when a combination process is selected. See Fig.6 and column 6, line 43, to column 7, line 6. Note that the functions would include the byte combination, the half-word combination, the word combination, and the long-word combination.

d) storing a result of the combining of the plurality of arithmetic flags in a destination register for access by the processor. Note that the flags are stored in the destination register shown at the bottom of Fig.6.

25. Referring to claim 13, Wilson has taught an apparatus as described in claim 12. Furthermore, claim 13 is rejected for the same reasons set forth in the rejection of claim 3.

26. Referring to claim 14, Wilson has taught an apparatus as described in claim 13. Furthermore, claim 14 is rejected for the same reasons set forth in the rejection of claim 4.

27. Referring to claim 17, Wilson has taught a method of extracting a plurality of arithmetic flags for presentation to a processor, comprising:

a) determining a field size of the plurality of arithmetic flags on which to base a combination process, wherein the plurality of arithmetic flags represent the status of a plurality of data items after a mathematical operation is performed by the processor on the plurality of data items. It should be realized that a field size must first be determined. For purposes of this examination, "field size" in Wilson refers to the maximum number of unique condition codes that can be produced for a given instruction. A condition code is a 4-bit set of arithmetic flags (column 6, lines 37-42). From column 6, lines 43-45, when the SIMD data is one byte in size, it is determined that the field size is 8. More specifically, up to 8 unique condition codes will be produced. From column 6, lines 46-56, when the SIMD data is two bytes (half-word) in size, it is determined that the field size is 4. That is, 4 condition codes are produced and then duplicated. However, it is only possible for 4 unique codes to be produced. As a further example, from column 6, lines 58-65, when the SIMD data is 32 bits in size (word), the field size is determined to be 2. That is, 2 condition codes are produced and then duplicated multiple times. However, it is only possible for 2 unique codes to be produced. Finally, when the SIMD data size is 64 bits, the field size is 1, where 1 condition code is produced and duplicated multiple times. However, it is only possible for a single unique code to be produced. These

condition codes (arithmetic flags) represent data item status (column 6, lines 1-5) after a mathematical operation is performed by the processor.

b) extracting the plurality of arithmetic flags based on the field size. The "American Heritage® Dictionary of the English Language, Third Edition," 1992, has defined "extract" as "to derive or obtain from a source" and "to determine or calculate." As a result, Wilson's system will extract (derive or determine) the arithmetic flag values based on a mathematical operation performed by the processor. And, from the rejection of claim 7 above, the number of flags derived (extracted) depends on the field size.

c) storing a result of the extracting of the plurality of arithmetic flags in a destination register for access by the processor. Note that the flags are stored in the destination register shown at the bottom of Fig.6.

28. Referring to claim 18, Wilson has taught a method as described in claim 17. Furthermore, claim 18 is rejected for the same reasons set forth in the rejection of claim 3.

29. Referring to claim 19, Wilson has taught a method as described in claim 18. Furthermore, claim 19 is rejected for the same reasons set forth in the rejection of claim 4.

30. Referring to claim 20, the examiner has noticed that claim 20 is an exact duplicate of claim 17. Therefore, claim 20 is rejected for the same reasons set forth in the rejection of claim 17.

31. Referring to claim 21, the examiner has noticed that claim 21 is an exact duplicate of claim 18. Therefore, claim 21 is rejected for the same reasons set forth in the rejection of claim 18.

32. Referring to claim 22, the examiner has noticed that claim 22 is an exact duplicate of claim 19. Therefore, claim 22 is rejected for the same reasons set forth in the rejection of claim 19.

Claim Rejections - 35 USC § 103

33. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

34. Claims 5, 10-11, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson, as applied above, in view of Bindloss et al., U.S. Patent No. 5,778,241 (herein referred to as Bindloss).

35. Referring to claim 5, Wilson has taught a device as described in claim 4. Wilson has not taught that the combination function module performs either an AND or an OR operation. However, Bindloss has taught the general concept of ANDing multiple condition codes together to produce an overall condition code. See Fig.3C and column 7, lines 32-36. Performing this operation would allow the system, for instance, to check if all data items have a carry. See column 4, lines 1-4. This should be realized because if 4 additions occur, each addition producing condition codes of 1101, 1011, 1100, and 1110, respectively (where the carry flag is the 0^{th} bit), then by ANDing each code together, the final code is 1000. And, since the 0^{th} bit is equal to 0, the system would recognize that a carry did not occur in all of the items. A person of ordinary skill in the art would have recognized that checking a single ANDed condition code

would take less time than checking multiple condition codes. Therefore, to increase the efficiency of the system, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wilson such that the combination function module performs either an AND or an OR operation. Note that Bindloss' teaching of just an AND operation is sufficient enough to reject the claim since the applicant is using alternate language ("or").

36. Referring to claim 10, Wilson has taught a method as described in claim 9. Furthermore, claim 10 is rejected for the same reasons set forth in the rejection of claim 5.

37. Referring to claim 11, Wilson in view of Bindloss has taught a method as described in claim 10. Furthermore, claim 11 is rejected for the same reasons set forth in the rejection of claim 6.

38. Referring to claim 15, Wilson has taught an apparatus as described in claim 14. Furthermore, claim 15 is rejected for the same reasons set forth in the rejection of claim 5.

39. Referring to claim 16, Wilson has taught an apparatus as described in claim 15. Furthermore, claim 16 is rejected for the same reasons set forth in the rejection of claim 6.

Conclusion

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR § 1.111(c).

Philips et al., U.S. Patent No. 6,038,652, has taught exception reporting on function generation in a SIMD processor. More specifically, the parallel operations each generate their own respective flags, which are then combined to form one global flag.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Huisman whose telephone number is (703) 305-7811. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJH
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February 15, 2004

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